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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,644	01/10/2002	Donald B. Craig	29143-03	5981

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EXAMINER

ANDREWS, MELVYN J

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/043,644	Applicant(s) CRAIG ET AL.	
	Examiner Melvyn J. Andrews	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 and 40-63 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 1-37, 40, 41 and 45-63 is/are allowed.
 6) ☒ Claim(s) 38 and 44 is/are rejected.
 7) ☒ Claim(s) 42 and 43 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 38 and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amendment to Claim 38, "a separate" is new matter.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher et al (US 5,033,531). The patent to Fisher et al discloses a filter for filtering molten iron including an inoculant for molten iron including ferrosilicon mixed with a material such as a rare-earth (col.8, lines 20 to 63) but does not explicitly disclose the carrier (ferrosilicon) comprises at least 30% ferrosilicon but Fisher et al disclose a filter with particles of an inoculant having a composition of 65 % silicon, 1.4 %, aluminum, 1.4 % calcium, 4 % manganese, 3.75 % zirconium and balance iron (col.5, lines 16 to 28) so that it would have obvious to one of ordinary skill in the art that the Fisher et al inoculant comprises at least 30 % silicon and iron.

Fisher et al claims a filter for filtering molten iron comprising a body of open-cell ceramic foam, a layer of adhesive such as wax and an inoculant (col.8, lines 20 to 66)

but not a separate insert or pellet in combination with a filter, as now claimed.

Nevertheless Fisher et al discloses that in the prior art attempts to overcome the problems associated with the use of fine particles, methods have been proposed which utilize inserts made of, bonded, compressed or sintered particulate inoculants over which or through which molten iron flows and in one such method the insert rests on a strainer core (col.1, lines 26 to 46), consequently the claimed "filter assembly" is obvious in view of the combination of an insert and a strainer core.

Response to Arguments

Applicant's arguments filed March 1, 2004 have been fully considered but they are not persuasive. Applicants argue that the claimed invention is directed to a filter and a separate inoculant pellet but the expression "separate" is new matter. Fisher et al disclose a filter comprising a filter and particles of inoculant up to about 10 mm (col.3, lines 9 to 12) as well as an adhesive but Claims 38 and 44 do not limit the size of the pellet and do **not exclude an adhesive**, such as wax. The expression separate may also be applied to the Fischer et al filter since the inoculant is separate from the filter even if it is adhered to the filter. Applicants' argument that the Fisher et al inoculant is substantially the same size as the underlying filter is not well taken since Fischer et al claims the inoculant has a particle size of up to 10 mm or a particle size of 0.05-2 mm (col.8, lines 59 and 62). The examiner does not agree that simply because the Fisher et al layer of inoculant is disposed on top of an adhesive layer that the Fisher et al filter is no longer comprised of inoculant particles.

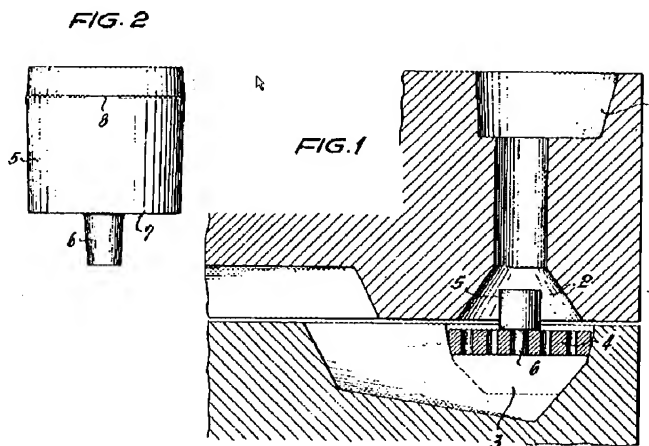
Claims 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher et al (US 5,033,531) as applied to claims 38, 39, 42, 43 and 44 above, and further in view of Williamson (US RE37,520) or Cole et al (US 4,054,275) or McWhorter et al (US 4,162,917). The patent to Fisher et al discloses "particles of an inoculant" not an "inoculant pellet" as claimed but Williamson discloses a ferrosilicon inoculant which may be in the form of chunks, pellets, powder or other granular form of inoculant (col.7, lines 18 to 25), Cole et al discloses magnesium ferrosilicon as a nodularizing agent in particulate or lump form (col.6, lines 17 to 39), as well as, magnesium ferrosilicon pellets (col.6, line 62) and McWhorter et al discloses a nodulizing agent is a mechanical mixture of granular ferrosilicon and atomized magnesium formed into pellets (col.2, lines 11 to 42) it would have been obvious to one of ordinary skill in the art at the time the invention was made to form a ferrosilicon inoculant such as disclosed by Fisher et al, into pellets since such pellets will function as nodularizing agents to treat molten iron.

Response to Arguments

Applicant's arguments filed March 1, 2004 have been fully considered but they are not persuasive. Applicant argues that pellets cannot be incorporated into the interior of the Fisher et al filter is not well taken since the secondary references Williamson, Cole and McWhorter are relied on to show that an inoculant including ferrosilicon need not be in particulate form and Fisher et al claims a filter comprising an inoculant which does not exclude a shape such as a pellet or lump. Also the Fisher et al inoculant, per se is separate from the filter even if it is adhered to the filter by an adhesive material, such as

wax. It is noted that the claimed pellets also may include a binding agent (Specification [00032] and [00033].

Claims 38 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teufel (US 3,881,937). Teufel discloses a shaped body inoculation means (col.2, line 59 to col.3, line 29 and Figs 1 and 2) which comprises a stem or peg 6 comprising ferrosilicon and aluminum as in Claims 38 and 44 but does not explicitly disclose an "inoculant pellet" but the stem or peg is considered the structural and functional equivalent of a separate inoculant as shown in FIG.1 and FIG.2.



It is further noted that the size of the Teufel inoculation body 5 is independent of the size of the strainer grate core 4 but Teufel does not disclose an inoculant comprising ferrosilicon and a rare earth but Fisher et al disclose a filter including ferrosilicon and a rare earth (col.2, line 63 to col.3, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a rare earth together with

ferrosilicon in the inserts disclosed by Fisher (col.1, lines 26 to 46) since iron is being treated in both cases..

Claim Objections

Claims 42 and 43 objected to because of the following informalities. Claim 42 depends from canceled Claim 39. Appropriate correction is required.

Allowable Subject Matter

Claims 1-37, 40, 41 and 45-63 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Fisher et al, Williamson, Cole et al, McWhorter et al or Teufel do not disclose or suggest a filter which only allows particles below 10 μ to pass there through; an assembly comprising a pellet and a filter wherein the ratio of mass of the pellet to surface area of the filter is at least 0.75 to no more than 1.5 and a pellet having a dissolution rate of at least 1 mg/sec to no more than 320 mg/sec.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 1742

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvyn J. Andrews whose telephone number is (571)272-1239. The examiner can normally be reached on 8:00A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on (571)272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MELVYN ANDREWS
PRIMARY EXAMINER

mja
May 5, 2004